IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Ameline et al. §
Serial No.: 10/035,335 §
Filed: 1/4/02 §
For: METHOD FOR APPLYING A DIGITAL WATERMARK TO AN OUPUT IMAGE FROM A COMPUTER PROGRAM §

Confirmation No.: 2226
Group Art Unit: 2624
Examiner: Ali Bayat

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450, or electronically transmitted to the U.S. Patent and Trademark Office via EFS-Web to the attention of Examiner Ali Bayat on the date shown below:

June 26, 2006
Date

Jon K. Stewart

Dear Sir:

RESPONSE TO OFFICE ACTION DATED MARCH 24, 2006

In response to the Office Action dated March 24, 2006, having a shortened statutory period for response set to expire on June 24, 2006, please enter this response and reconsider the claims pending in the application for reasons discussed below. Although Applicant believes that no additional fees are due in connection with this response, the Commissioner is hereby authorized to charge counsel's Deposit Account No. 20-0782/AUTO/1048/JKS, for any fees, including extension of time fees or excess claim fees, required to make this response timely and acceptable to the Office.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper. **Remarks/Arguments** begin on page 10 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A method for applying a digital watermark to output images from a computer program, comprising:

generating, for each of the output images, the digital watermark, the digital watermark having at least one attribute, wherein each attribute is a function of a variable associated with the attribute, the variable being capable of modification from image to image to produce a different digital watermark on each of the output images; and

applying the digital watermark to each output image to produce corresponding watermarked images[[;]], wherein said generating step comprises retrieving, based on at least one variable, at least a portion of the digital watermark from a memory having a plurality of different watermark portions, wherein said at least one attribute is varied amongst said different watermark portions.

2. (Currently Amended): The method of claim 1, wherein the generating step further comprises:

generating, for each of the output images, the digital watermark, wherein said at least one attribute of the digital watermark is a function of a random number.

3. (Canceled)

4. (Currently Amended): The method of claim [[3]] 1, wherein said generating step further comprises:

modifying at least one further attribute of the watermark based on the associated variable.

5. (Currently Amended): The method of claim 4, wherein said generating step further comprises:

generating, for each of the output images, the digital watermark, wherein said at least one attribute comprises font type, x-dimension size, y-dimension size, rotation, text spacing, line spacing, or opacity.

6. (Original): The method of claim 4, wherein said applying step comprises, for each output image:

selecting at least one position on each output image color channel at which to apply the digital watermark, wherein the selected position on each output image color channel can be varied from one application of the digital watermark to another application of the digital watermark to generate chromatic aberration; and

blending the digital watermark with said output image at said selected position to produce a watermarked output image.

7. (Original): The method of claim 6, wherein said applying step further comprises, for each output image, the following steps before said blending step:

transforming the digital watermark; and

modifying opacity of the digital watermark.

8. (Original): The method of claim 7, wherein said transforming, comprises:

transforming the digital watermark, wherein said transforming occurs across each color channel of the output image and can be varied from one application of the digital watermark to another application of the digital watermark.

9. (Original): The method of claim 7, wherein said modifying step comprises:

varying opacity of the watermark on a per-pixel basis based on brightness of corresponding pixels in the output image.

10. (Original): The method of claim 7, wherein said modifying step comprises:

varying opacity of the watermark based on detail in the output image.

11. (Original): The method of claim 7, further comprising:

limiting size of the output image to a specified value.

12. (Original): The method of claim 7, further comprising:

limiting per-pixel color resolution of the output image to a specified value.

13. (Original): The method of claim 9, wherein said transforming step, comprises:

scaling values in each color channel by a random amount on each pixel to generate chromatic noise.

14. (Original): The method of claim 6, wherein said blending step comprises:

perturbing each color channel of the digital watermark.

15. (Original): The method of claim 6, further comprising:

altering the applied digital watermark to create an embossed appearance.

16. (Original): The method of claim 15, wherein said altering step comprises:

performing a saturated add operation of the digital watermark for each output image such that the digital watermark is added to each of four channels of each output image; and

half-subtracting the digital watermark at a location represented by a specified value and such that only red, blue, and green channels of each output image are affected.

17. (Currently Amended): The method of claim [[3]] 1, wherein said applying step comprises:

randomly applying the digital watermark to each output image.

18. (Currently Amended): The method of claim [[3]] 1, wherein said applying step comprises:

applying the digital watermark to each output image, wherein the output image is a texture in a graphical scene.

19. (Original): The method of claim 1, further comprising:

repeating said generating and applying steps a plurality of times for each output image.

20. (Currently Amended): The method of claim 1, where said generating step further comprises:

retrieving, based on the variable, a plurality of different portions of the digital watermark from said memory, wherein the at least one attribute is varied amongst said plurality of different watermark portions.

21. (Original): The method of claim 1, further comprising:

applying said watermark to a substantial portion of said output images to produce corresponding watermarked images.

22. (Original): The method of claim 1, further comprising:

ensuring that there is overlap, from image to image, in the watermarked portions of said watermarked images.

23. (Currently Amended): A computer program product comprising a computer usable medium having computer program logic for enabling a processor to apply a digital watermark to output images from a computer program, comprising:

first means for enabling the processor to generate, for each of the output images, the digital watermark, the digital watermark having at least one attribute, wherein each attribute is a function of a variable associated with the attribute, the variable being capable of modification from image to image to produce a different digital watermark on each of the output images; and

second means for enabling the processor to apply the digital watermark to each output image to produce corresponding watermarked images,

wherein said first means comprises means for enabling the processor to generate, for each output image, the digital watermark, by retrieving at least a portion of the digital watermark from a memory having a plurality of different watermark portions, wherein said at least one attribute is varied amongst said different watermark portions.

24. (Original): The computer program product of claim 23, wherein said first means comprises:

means for enabling the processor to generate, for each of the output images, the digital watermark, wherein each attribute of the digital watermark is a function of a random number.

25. (Canceled)

26. (Currently Amended): The computer program product of claim [[25]] 23, wherein said first means further comprises:

means for enabling the processor to modify at least one further attribute of the watermark based on the associated variable.

27. (Currently Amended): The computer program product of claim 26, wherein said first means further comprises:

means for enabling the processor to generate, for each of the output images, the digital watermark, wherein said at least one attribute comprises font type, x-dimension size, y-dimension size, rotation, text spacing, line spacing, and/or opacity.

28. (Original): The computer program product of claim 26, wherein said second means comprises:

means for enabling the processor to apply the digital watermark to each output image by selecting at least one position on each output image color channel at which to apply the digital watermark, wherein the selected position on each output image color channel can be varied from one application of the digital watermark to another application of the digital watermark to generate chromatic aberration; and

blending the digital watermark with the output image at the selected position to produce a watermarked output image.

29. (Original): The computer program product of claim 28, wherein said second means further comprises:

means for enabling the processor to apply the digital watermark to each output image by

transforming the digital watermark; and

modifying opacity of the digital watermark.

30. (Original): The computer program product of claim 29, wherein said means for enabling the processor to apply the digital watermark to each output image comprises:

means for enabling the processor to transform the digital watermark, wherein said transforming occurs across each color channel of the output image and can be varied from one application of the digital watermark to another application of the digital watermark.

31. (Original): The computer program product of claim 29, wherein said means for enabling the processor to apply the digital watermark to each output image, further comprises:

means for enabling the processor to vary opacity of the watermark on a per-pixel basis based on brightness of corresponding pixels in the output image.

32. (Original): The computer program product of claim 29, wherein said means for enabling the processor to apply the digital watermark to each output image, further comprises:

means for enabling the processor to vary opacity of the watermark based on detail in the output image.

33. (Original): The computer program product of claim 29 wherein said means for enabling the processor to apply the digital watermark to each output image, further comprises:

means for enabling the processor to limit size of the output image to a specified value.

34. (Original): The computer program product of claim 29, wherein said means for enabling the processor to apply the digital watermark to each output image, further comprises:

means for enabling the processor to limit per-pixel color resolution of the output image to a specified value.

35. (Original): The computer program product of claim 29, wherein said second means comprises:

means for enabling the processor to apply the digital watermark to each output image by:

scaling values in each color channel by a random amount on each pixel to generate chromatic noise; and

modifying opacity of the digital watermark.

36. (Original): The computer program product of claim 23, wherein said second means further comprises:

means for enabling the processor to repeat the generation and application of the digital watermark a plurality of times for each output image.

37. (Currently Amended): The computer program product of claim 23, wherein said first means further comprises:

means for enabling the processor to generate, for each output image, the digital watermark, by retrieving, based on said first variable, a plurality of different portions of the digital watermark from said memory, wherein said at least one attribute is varied amongst said plurality of different portions.

38. (Currently Amended): The computer program product of claim [[25]] 23, wherein said second means comprises:

means for enabling the processor to randomly apply the digital watermark to each output image.

39. (Currently Amended): The computer program product of claim [[25]] 23, wherein said second means comprises:

means for enabling the processor to apply the digital watermark to each output image, wherein the output image is a texture in a graphical scene.

40. (Currently Amended): The computer program product of claim [[25]] 23, wherein said second means comprises:

means for enabling the processor to apply the digital watermark to each output image, wherein the output image is a rendered image.

41. (Currently Amended): The computer program product of claim [[25]] 23, wherein said second means comprises:

means for enabling the processor to signal graphics hardware to apply the digital watermark to each output image to produce a watermarked image on a computer display screen.

42. (Original): The computer program product of claim 28, wherein said second means comprises:

means for enabling the processor to blend the digital watermark with each output image at the selected position to produce a watermarked output image by

perturbing each color channel of the digital watermark; and

performing a saturated add operation of the digital watermark to each output image.

43. (Original): The computer program product of claim 28, further comprising:

third means for enabling the processor to alter the applied digital watermark to create an embossed appearance.

44. (Original): The computer program product of claim 43, wherein said third means comprises:

means for enabling the processor to alter the applied digital watermark to create an embossed appearance by

performing a saturated add operation of the digital watermark for each output image such that the digital watermark is added to each of the four channels of each output; and

half-subtracting the digital watermark at a location represented by a specified value and such that only red, blue, and green channels of said output image are affected.

45-47. (Canceled)

REMARKS

This is intended as a full and complete response to the Office Action dated March 24, 2006, having a shortened statutory period for response set to expire on June 26, 2006. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-2, 4-24 and 26-44 remain pending in the application and are shown above. Claims 3, 25 and 45-47 have been canceled. Claims 1-2, 19, 21-24, 36 and 45-47 are rejected. Claims 3-18, 20, 25-35 and 37-44 are objected to. Reconsideration of the rejected claims is requested for reasons presented below.

Claim Rejections - 35 U.S.C. § 102

Claims 1-2, 19, 21, 22, 23-24 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by *Levy* (U.S. Pub. No. 2003/0112974).

Regarding claims 1 and 23:

Applicants have amended Claim 1 to incorporate dependent claim 3, and Applicants have amended claim 23 to incorporate dependent claim 25. The Examiner has indicated that claims 3 and 25 recite allowable subject matter, but objected to these claims as being dependent on a rejected base claim. By incorporating the allowable subject matter recited by claims 3 and 25 into independent claims 1 and 23, respectively, Applicants believe that claims 1 and 23 are in condition for allowance. Therefore, Applicants respectfully request allowance of claims 1 and 23.

Regarding claims 2, 19, 21, 22, 23-24 and 36:

Claims 2, 19, 21, 22, 23-24 and 36 each depend from one of claims 1 and 23. As Applicants believe that, as amended, claims 1 and 23 are in condition for allowance, Applicants believe that these dependent claims are also in condition for allowance.

Claim Rejections - 35 USC § 103

Claims 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levy (US 2003/0112974) in view of Kanevsky et al. (US 2002/0107750).

Claims 45-47 are canceled with this response, without prejudice to further prosecution of these claims. Accordingly, Applicants believe a detailed discussion of this rejection is unnecessary.

Objected Claims

Claims 4-18, 20, 26-35 and 37-44 are objected to as being dependent upon a rejected base claim.

Claims 4-18, 20, 26-35 and 37-44 each depend from one of claims 1 and 23. As Applicants believe that, as amended, independent claims 1 and 23 are in condition for allowance, Applicants believe that these dependent claims are also in condition for allowance.

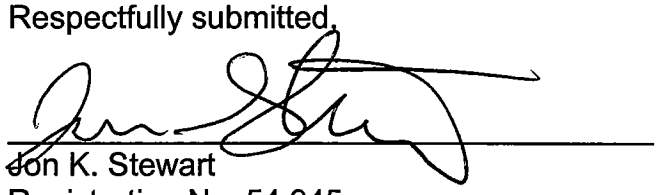
Conclusion

Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

If the Examiner believes any issues remain that prevent this application from going to issue, the Examiner is strongly encouraged to contact Jon K. Stewart, Attorney for Applicants at (713) 623-4844, to discuss strategies for moving prosecution forward toward allowance.

Having addressed all issues set out in the Final Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



Jon K. Stewart
Registration No. 54,945
PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd. Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Applicant